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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/823,057	04/13/2004	Stefan Lindenmeier	510.1097	4084
23280 7590 05/29/2007 DAVIDSON, DAVIDSON & KAPPEL, LLC 485 SEVENTH AVENUE, 14TH FLOOR NEW YORK, NY 10018			EXAMINER NGUYEN, LEON VIET Q	
			ART UNIT 2611	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/823,057	Applicant(s) LINDENMEIER ET AL.	
	Examiner Leon-Viet Q. Nguyen	Art Unit 2611	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 February 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>2/8/2006</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

2. The information disclosure statement (IDS) submitted on 2/8/2006 was filed after the mailing date of 2/8/2006. The submission is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. **Claim 7 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The use of the trademark name "Bluetooth" is improper.**

MPEP 2173.05(u) states:

" if the trademark or trade name is used in a claim as a limitation to identify or

describe a particular material of product, the claim does not comply with the requirements of the 35 U.S.C. 112, second paragraph. Ex parte Simpson, 218 USPQ 1020 (Bd. App. 1982)." The claim scope is uncertain since the trademark or trade name cannot be used properly to identify any particular material or product. In fact, the value of a trademark would be lost to the extent that it became descriptive of a product, rather than used as an identification of a source or origin of a product. Thus, the use of a trademark or trade name in a claim to identify or describe a material or product would not only render a claim indefinite, but would also constitute an improper use of the trademark or trade name.

In this application, claim 7 intends the trademark name "Bluetooth" as a limitation to restrict the baseband module as a Bluetooth device. Hence, the use of Bluetooth in this context is improper. See the MPEP citation above.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. **Claims 1 and 2 are rejected under 35 U.S.C. 102(b) as being anticipated by Cumeralto et al (US20020109607).**

Re claim 1, Cumeralto discloses a radio transmission method for sending or

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receiving control data and useful data (it is inherent in spread spectrum techniques that there is a pseudo-noise code, interpreted to be the control data, which is independent of the information data, interpreted to be the useful data), comprising:

transforming the control data from a first format adapted to a first radio transmission method into a second format adapted to a second radio transmission method (¶0011, the FHSS transmissions are converted to DSSS transmissions); and
modulating the control data in the second format onto a carrier frequency (although not explicitly disclosed, it is inherent that data would be modulated onto a carrier frequency in spread spectrum transmission techniques).

Re claim 2, Cumeralto discloses a radio transmission method wherein the first radio transmission method is a frequency-hopping-spread-spectrum transmission method (¶0011, the FHSS transmissions), and the second radio transmission method is a CDMA transmission method (¶0011, the DSSS transmissions. CDMA technology is based on DSSS).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Cumeralto et al (US20020109607).

Re claim 3, Cumeralto fails to teach a radio transmission method wherein the second radio transmission method is a frequency-hopping-spread-spectrum transmission method, and the first radio transmission method is a CDMA transmission method. However Cumeralto does teach wherein the first radio transmission method is a frequency-hopping-spread-spectrum transmission method (§0011, the FHSS transmissions), and the second radio transmission method is a CDMA transmission method (§0011, the DSSS transmissions. CDMA technology is based on DSSS).

One of ordinary in the art would have found it obvious to use a CDMA transmission method as the first radio transmission method and a frequency-hopping-spread-spectrum transmission method as the second radio transmission method. The motivation to use the CDMA transmission method would be have higher potential data transmission rates (§0005, DSSS is interpreted as CDMA) and the motivation to use the frequency-hopping-spread-spectrum transmission method would be reduce interference (§0007).

5. Claims 4 - 6 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Haas (US20020054619) in view of Cumeralto et al (US20020109607).

Re claim 4, Haas teaches a radio transmission system, comprising:
a baseband module for transmitting useful data using control data and configured

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for a first radio standard (DSSS block in remote receiving unit 20 in fig. 1, ¶0021. DSSS is interpreted to be the first radio standard. Also it is well known in the art that in spread spectrum techniques that there is a pseudo-noise code, interpreted to be the control data, which is independent of the information data, interpreted to be the useful data); and

a high-frequency section for transmitting useful data using control data and configured for a second radio standard (FHSS block in remote receiving unit 20 in fig. 1. FHSS is interpreted to be the second radio standard. Also it is well known in the art that in spread spectrum techniques that there is a pseudo-noise code, interpreted to be the control data, which is independent of the information data, interpreted to be the useful data), the second radio standard being different from the first radio standard (it is well known in the art that DSSS and FHSS are two different spread spectrum techniques).

However Haas fails to teach an adapter circuit configured to transform the control data of one of the first and second radio standards into control data of the other of the first and second radio standards.

Cumeralto teaches an adapter circuit configured to transform the control data of one of the first and second radio standards into control data of the other of the first and second radio standards (¶0011, the system converts FHSS transmissions to DSSS transmissions that are retransmitted).

Therefore taking the combined teachings of Haas and Cumeralto as a whole, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the adapter circuit of Cumeralto into the radio transmission system of Haas. The motivation to combine Cumeralto and Haas would be to allow the use of lower cost end point encoder transmitters (§0011).

Re claim 5, the modified invention of Haas teaches a radio transmission system wherein the baseband module is configured for an FHSS transmission system (FHSS block in remote receiving unit 20 in fig. 1) and the high-frequency section is configured for a CDMA transmission system (DSSS block in remote receiving unit 20 in fig. 1).

Re claim 6, the modified invention of Haas teaches a radio transmission system wherein the baseband module is configured for a CDMA transmission system (DSSS block in remote receiving unit 20 in fig. 1) and the high-frequency section is configured for an FHSS transmission system (FHSS block in remote receiving unit 20 in fig. 1).

Re claim 10, it is well known in the art that in FHSS systems, hopping patterns are usually controlled by pseudo noise codes. Each hopping pattern and PN codes have specific parameters.

6. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Haas (US20020054619) and Cumeralto et al (US20020109607) and further in view of the background of applicant's specification (hereby referred to as the background).

Re claim 7, the modified invention of Haas fails to teach a radio transmission system wherein the baseband module is configured for the Bluetooth standard. However the background teaches using a Bluetooth radio transmission method (¶0003).

Therefore taking the modified teachings of Haas and Cumeralto with the background as a whole, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the Bluetooth radio transmission method of the background into the radio transmission system of Haas and Cumeralto. The motivation to combine the background, Cumeralto and Haas would be to ensure certain interference immunity and security against tapping (¶0003).

7. Claims 8 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Haas (US20020054619) and Cumeralto et al (US20020109607) and further in view of Fullerton et al (US5963581).

Re claim 8, the modified invention of Haas fails to teach a radio transmission system wherein the adapter circuit includes a memory unit storing assignment instructions for a plurality of pseudorandom noise code sequences corresponding to a plurality of hopping sequences. However Fullerton teaches a radio transmission system (col. 2 line 51) wherein the adapter circuit includes a memory unit (col. 2 lines 54-58) storing assignment instructions for a plurality of pseudorandom noise code sequences

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(col. 2 lines 56-58) corresponding to a plurality of hopping sequences (although not explicitly disclosed, it is well known to one of ordinary skill in the art that each hopping sequence in FHSS transmissions include a PN code).

Therefore taking the modified teachings of Haas and Cumeralto with Fullerton as a whole, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the memory unit of Fullerton into the radio transmission system of Haas and Cumeralto. The motivation to combine Fullerton, Cumeralto and Haas would be to permit the PN codes to be synchronized to a modulator (col. 2 lines 58-60) and perform smoothing of a final emitted impulse radio signal (col. 2 lines 63-64), which is a well known method of reducing noise.

Re claim 11, the modified invention of Haas fails to teach a radio transmission system wherein the adapter circuit includes a shift register (col. 13 lines 53-55) for generating at least one of parameters for pseudorandom noise code sequences (col. 13 lines 53-55) and parameters for hopping sequences (although not explicitly disclosed, one of ordinary skill in the art would have found it obvious to use the shift registers to generate parameters for the hopping sequences which correspond to the PN codes).

Therefore taking the modified teachings of Haas and Cumeralto with Fullerton as a whole, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the memory unit of Fullerton into the radio transmission system of Haas and Cumeralto. The motivation to combine Fullerton, Cumeralto and Haas would be to permit the PN codes to be synchronized to a

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modulator (col. 13 lines 55-57) and perform smoothing of a final emitted impulse radio signal (col. 2 lines 57-60), which is a well known method of reducing noise.

8. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Haas (US20020054619) and Cumeralto et al (US20020109607) and further in view of Ueda et al ("Vehicle-to-vehicle communication and ranging system using code-hopping spread spectrum technique with code collision avoidance algorithm", IEEE CCECE2002 Canadian Conference on Electrical and Computer Engineering Volume 3, 12-15 May 2002 Pages:1250 - 1254).

Re claim 9, the modified invention of Haas fails to teach a radio transmission system wherein the adapter circuit is configured to generate parameters for a pseudorandom noise code sequence from parameters for a hopping sequence.

However Ueda teaches wherein a system is configured to generate parameters for a pseudorandom noise code sequence from parameters for a hopping sequence (pg. 1251, left side, third paragraph. The system changes PN code in accordance with a hopping pattern).

Therefore taking the modified teachings of Haas and Cumeralto with Ueda as a whole, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the hopping system of Ueda into the radio transmission system of Haas and Cumeralto. The motivation to combine Ueda, Cumeralto and Haas would be to adaptively change PN codes because a long distance can be ranged by a long periodic PN code which be made by some short periodic PN

code with the hopping pattern while a fast bit rate communication is done by a short periodic PN code (pg. 1251, left side, third paragraph – page 1251, right side, first two lines)

9. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Haas (US20020054619), Cumeralto et al (US20020109607) and Fullerton et al (US5963581) and further in view of Pratt (US20020033766).

Re claim 12, the modified invention of Haas fails to teach a radio transmission system wherein the adapter circuit is suited for generating parameters for gold codes as pseudorandom noise code sequences. However Pratt teaches generating gold codes (§0063), which are well known in the art as a type of pseudorandom noise code.

Therefore taking the modified teachings of Haas, Cumeralto, and Fullerton with Pratt as a whole, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the use of gold codes of Pratt into the radio transmission system of Fullerton, Haas, and Cumeralto. The motivation to combine Pratt, Fullerton, Cumeralto and Haas would be to reduce the signal leakage between different sequences (§0063).

10. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Haas (US20020054619) and Cumeralto et al (US20020109607) and further in view of Chang et al (US20030161385).

Re claim 13, the modified invention of Chang fails to teach a radio transmission

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system wherein the high-frequency section is configured to realize the CDMA transmission method (§§0007-§§0008. The DSSS signals are interpreted to be from the first spread spectrum transmission scheme) and the FHSS transmission method (§§0007-§§0008. The FHSS signals are interpreted to be from the second spread spectrum transmission scheme) simultaneously within one transmission (§§0008, the first and second transmission schemes used in the same frequency band), in superimposed fashion (§§0008, the first and second transmission schemes used in the same frequency band is interpreted to mean that the two signals are superimposed.

Therefore taking the modified teachings of Haas and Cumeralto with Chang as a whole, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the memory unit of two superimposed transmission schemes of Chang into the radio transmission system of Haas and Cumeralto. The motivation to combine Chang, Cumeralto and Haas would be to extend the ability of conventional linear multi-user detection (§§0009) and remove the limitations of conventional linear multi-user detection on linearly modulated signals (§§0009).

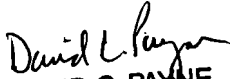
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leon-Viet Q. Nguyen whose telephone number is 571-270-1185. The examiner can normally be reached on monday-friday, alternate friday off, 7:30AM-5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David C. Payne can be reached on 571-272-3024. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Leon-Viet Nguyen/


DAVID C. PAYNE
SUPERVISORY PATENT EXAMINER